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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/909,417 | 07/19/2001 | Masahiro Yatake | U 013559-6 | 7288 |

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EXAMINER

SHOSHO, CALLIE E

ART UNIT PAPER NUMBER

1714

DATE MAILED: 01/24/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/909,417

Applicant(s)

YATAKE, MASAHIRO

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6, 8, and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 6 recites that the saccharide-alkyleneoxy derivative has a “distributed molecular weight”. The scope of the claim is confusing because it is not clear what is meant by this phrase.

(b) A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd.

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App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claims 8 and 10 each recites the broad recitation “aldoses having 6 or less carbon atoms”, and the claim also recites “including glyceraldehyde, erythrose, threose, arabinose, xylose, glucose, mannose, talose, and galactose” which is the narrower statement of the range/limitation.

Similar language is found in each of the claims regarding the recitations with respect to ketoses having 6 or less carbon atoms and sugar alcohols having 6 or less carbon atoms.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

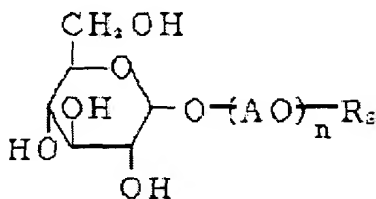
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Blount (U.S. 5,034,423) or JP 05317676.

Examples 1 and 2 of Blount disclose saccharide-alkyleneoxy derivative that is obtained by reacting propylene oxide with saccharide such as lactose, sucrose, glucose, mannitol, and sorbitol.

Alternatively, pending translation, it is noted that JP 05317676 discloses saccharide-alkyleneoxy derivative of the formula:

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where A is ethylene oxide or propylene oxide and n is 1-10.

5. Claims 1-9, 13-17, and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 62015274.

Pending translation, it is noted that JP 62015274 discloses ink jet ink comprising 0.5-20% alkylene oxide adduct of glucose which has molecular weight less than 1000 (abstract and examples on page 4).

In light of the above, it is clear that JP 62015274 anticipates the present claims.

6. Claims 1-5, 8-9, and 13-18 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 59059755.

Pending translation, it is noted that JP 59059755 discloses aqueous ink comprising 0.5-30% adduct of ethylene oxide and/or propylene oxide with glucose and water-soluble dye.

In light of the above, it is clear that JP 59059755 anticipates the present claims.

7. Claims 1-9, 12-18, and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwata et al. (U.S. 4,986,850).

Iwata et al. disclose aqueous ink jet ink comprising water-soluble dye or pigment, 10-50% alkylene glycol, and 0.5-4% alkylene oxide additive of polyhydric alcohol wherein the polyhydric alcohol includes saccharides such as glycerin, hexose, sugar-alcohol, and pentose (col.4, lines 22-25, 36-38, and 47-50 and col.4, line 64-col.5, line 19). From example 1, for instance, it is seen that the alkylene oxide additive of polyhydric alcohol has molecular weight of less than 1000. Although there is no disclosure of the surface tension, given that Iwata et al. disclose ink as presently claimed, it is clear that the ink would inherently possess surface tension as presently claimed.

In light of the above, it is clear that Iwata et al. anticipate the present claims.

8. Claims 1-9, 12-18, and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Matrick et al. (U.S. 5,180,425).

Matrick et al. disclose ink jet ink which possesses surface tension of 30-70 dyne/cm wherein the ink comprises colorant including pigment or water-soluble dye, 0.1-5% acetylene glycol, solvent such as alkylene glycol, and 5-55% alkylene oxide/polyol condensate made from reacting polyol such as glycerol, glucose, or sorbitol with alkylene oxide (col.3, lines 24-66, col.4, lines 32-36, col.9, lines 3-5, col.11, lines 46-47, and col.12, lines 31-39). Given that the alkylene oxide/polyol condensate is made from same number of alkylene oxide units and sacharide as presently claimed, it is clear that the alkylene oxide/polyol condensate would inherently possess same molecular weight as presently claimed.

In light of the above, it is clear that Matrick et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 59059755, JP 62015274, Iwata et al. (U.S. 4,986,850), or Matrick et al. (U.S. 5,180,425) any of which in view of Sano et al. (U.S. 5,503,664).

The disclosures with respect to JP 62015274, JP 59059755, Iwata et al., and Matrick et al. in paragraphs 5, 6, 7, and 8, respectively, are incorporated here by reference.

The difference between JP 62015274, JP 59059755, Iwata et al., or Matrick et al. and the present claimed invention is the requirement in the claims of saccharide.

Sano et al., which is drawn to ink jet ink, disclose the use of 0.1-40% saccharide such as glucose, mannose, sorbitol, etc. in order to produce ink that does not cause obstruction in nozzle and has good jetting stability (col.3, lines 48-67 and col.5, lines 5-11).

In light of the motivation for using saccharide disclosed by Sano et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use saccharide in the ink of either JP 62015274, JP 59059755, Iwata et al., or Matrick et al. in order to produce ink which does not cause obstruction in nozzle and has good jetting stability, and thereby arrive at the claimed invention.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62015274, Iwata et al. (U.S. 4,986,850), or Matrick et al. (U.S. 5,180,425) any of which in view of Hayashi et al. (U.S. 6,500,248) or Johnson et al. (U.S. 6,478,863).

The disclosures with respect to JP 62015274, Iwata et al., and Matrick et al. in paragraphs 5, 7, and 8, respectively, are incorporated here by reference.

The difference between JP 62015274, Iwata et al., or Matrick et al. and the present claimed invention is the requirement in the claims of water-dispersible pigment.

Hayashi et al., which is drawn to ink jet ink, disclose the use of pigment which is made dispersible by surface oxidation in order to produce pigment which is stably present in the ink without dispersant (col.4, lines 36-50 and col.4, line 57-col.5, line 3).

Alternatively, Johnson et al., which is drawn to ink jet ink, disclose the use of pigment with polymer attached in order to improve the dispersibility and dispersion stability of the pigments (col.1, lines 62-65, col.3, lines 27-29, col.4, line 59-col.5, line 5, and col.10, lines 60-61 and 66).

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use pigment which is made dispersible by surface oxidation or pigment with polymer

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attached in the ink of either JP 62015274, Iwata et al., or Matrick et al., and thereby arrive at the claimed invention.

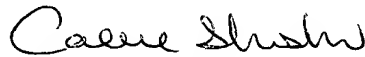
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nagai et al. (U.S. 5,993,524) disclose ink jet ink comprising substance identical to that set forth in presently claimed formula (2).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Callie E. Shosho
Examiner
Art Unit 1714

CS
January 14, 2003